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EXAMINER	
RODRIGUEZ, GLENDA P	
ART UNIT	**PAPER NUMBER**
2651	

DATE MAILED: 08/26/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/888,896	Applicant(s) KATAHARA ET AL.	
	Examiner Glenda P. Rodriguez	Art Unit 2651	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on May 25, 2004

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-29 and 31* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) *10,25,28,29 and 31* is/are allowed.

6)☒ Claim(s) *1-9,11-24,26 and 27* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1, 4, 7, 8, 9, 13, 16, 18, 20 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shimada (JP 5175565) in view of Kumagai (JP 10320724A).

Regarding Claim 1, Shimada teaches a disk unit in which an arm having a head on a top is actuated, while a disk is rotated, so that a position of the head is moved with respect to the disk to perform write and read of data to and from the disk by the head (It is inherent that a disk unit has an arm (also called transducer) to perform write/read operations. See Fig. 2, block 5. Shimada teaches a disk unit), comprising:

A temperature sensor for detecting a temperature (JP 5175565; Fig. 2, Block 4);

And heating means for heating when said temperature sensor detects a temperature, which is less than a predetermined first temperature (JP 5175565; Page 10, [0010]).

However, Shimada does not explicitly disclose that the sensor is located inside the outline for housing along with the control circuit. Kumagai does disclose the use of a sensor located inside the outline along with the control circuit (JP 10320724;A See Fig 1, Element 20 and [0015]-[0025]. Kumagai teaches a humidity sensor, but it is known in the art, that in order to measure humidity, the medium has to be able to measure the

temperature, due to the fact that at a specific temperature (dew point temperature) the formation of dew may occur inside the disk outline. Kumagai further teach that the humidity is controlled by circuit components that prevent the humidity to rise by using circuit components to control the humidity on the outline.). It would have been obvious to a person of ordinary skill in the art, at the time the invention was made, to modify Shimada's invention with the teaching of Kumagai in order for the sensor to be inside the disk unit because prevent damage to the disk (JP 10320724 [0006]).

Regarding Claim 4, the combination of Shimada and Kumagai teach all the limitations of Claim 1. The combination further teaches a heating apparatus (JP 5175565; Fig. 2, Block 9).

Regarding Claim 7, the combination of Shimada and Kumagai teach all the limitations of Claim 1. The combination further teaches wherein said disk unit further comprises a communication circuit for communication with a host, and when said temperature sensor detects a temperature which is less than the first temperature, said communication circuit informs the host that heating is performed (JP 5175565; Fig. 2, Block 30 and Page 15 [0018] and [0019]. Shimada teaches the use of a host CPU.).

Regarding Claim 8, the combination of Shimada and Kumagai teach all the limitations of Claim 1. The combination further teaches wherein said disk unit further comprises a control circuit for controlling an operation of said disk unit, and when said temperature sensor detects a temperature which is less than a predetermined second temperature lower than the first temperature, said control circuit stops the operation of said disk (JP 5175565; Fig. 2, Block 7 and Page 15, [0018] and [0019]. Shimada teaches

that when hard disk is inoperable, the controller emits an OFF signal from an ON signal. The controller monitors the temperature detected by the temperature detector.).

Regarding Claim 9, the combination of Shimada and Kumagai teach all the limitations of Claim 8. The combination further teaches wherein said disk unit further comprises a communication circuit for communication with a host, and when said temperature sensor detects a temperature which is less than the second temperature, said communication circuit informs the host that said disk unit is not operable (JP 5175565; Fig. 2, Elements 7, 29, and 30 and Page 15, [0018] and [0019]. In Fig. 2, Shimada teaches a CPU (30) that has a direct connection (29) to the controller (7), which informs the CPU whenever the hard disk in inoperable because of intolerable temperature and will not enable the hard disk unless the temperature is operable.).

Regarding Claim 13, the combination of Shimada and Kumagai teach all the limitations of Claim 1. The combination further teach a heat generation suppressing means for suppressing generation of heat when said temperature sensor detects a temperature exceeding a predetermined third temperature higher than the first predetermined temperature (JP 5175565; Page 14, [0016]-[0018]).

Regarding Claim 16, the combination of Shimada and Kumagai teach all the limitations of Claim 1. The combination further teach wherein said disk unit further comprises a communication circuit for communication with a host, and when said temperature sensor detects a temperature exceeding the third temperature, said communication circuit informs the host that generation of heat is suppressed (JP 5175565; Fig. 2, Elements 7, 29, and 30 and Page 15, [0018] and [0019]. In Fig. 2, Shimada teaches a CPU (30) that has a direct connection (29) to the controller (7), which

informs the CPU whenever the hard disk in inoperable because of intolerable temperature and will not enable the hard disk unless the temperature is operable.).

Regarding Claim 18, Shimada teaches a disk unit in which an arm having a head on a top is actuated, while a disk is rotated, so that a position of the head is moved with respect to the disk to perform write and read of data to and from the disk by the head, said disk unit comprising:

> A humidity sensor for detecting humidity (JP 5175565; Fig. 2, Element 3);
>
> And heating means for heating when said humidity sensor detects a humidity exceeding a predetermined humidity (JP 5175565; Page 15, [0017]. Shimada teaches the use of a dehumidifying unit that eliminates the humidity produced inside the disk drive.).

However, Shimada does not explicitly disclose that the sensor is located inside the disk unit. Kumagai does disclose the use of a sensor located inside the outline along with the control circuit (JP 10320724A; See Fig 1, Element 20 and [0015]-[0025]. Kumagai teaches a humidity sensor. Kumagai further teach that the humidity is controlled by circuit components that prevent the humidity to rise by using circuit components to control the humidity on the outline.). It would have been obvious to a person of ordinary skill in the art, at the time the invention was made, to modify Shimada's invention with the teaching of Kumagai in order for the sensor to be inside the disk unit because prevent damage to the disk (JP 10320724 [0006]).

Regarding Claim 20, the combination of Shimada and Kumagai teach all the limitations of Claim 18. The combination further teach wherein said disk unit further comprises a second motor for driving said arm, and said heating means includes means for heating by conducting through said second motor a current which is unnecessary for operation of said arm, at time of stop of operation of said arm (JP 5175565; Fig. 2, Block 7 and Page 15, [0018] and [0019]. Shimada teaches that when hard disk is inoperable, the controller emits an OFF signal, therefore disabling the hard disk and stopping the operation of the arm.).

Regarding Claim 21, the combination of Shimada and Kumagai teach all the limitations of Claim 18. The combination further teaches a heating apparatus (JP 5175565; Fig. 2, Block 9).

Claims 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Shimada (JP 5174565) and Kumagai (JP 10320724A). The combination of Shimada and Kumagai teaches all the limitations of Claim 1. However, the combination do not explicitly teach wherein said disk unit further comprises a second motor for driving said arm, and said heating means includes means for heating by conducting through said second motor a current which is unnecessary for operation of said arm. It is obvious to a person of ordinary skill in the art to know that by energizing the second motor with an operational current the medium is heating the medium without actually using the second motor. It would have been obvious to a person of ordinary skill in the art, at the time the invention was made, to modify Shimada's invention in order to make the medium able to heat the second motor in order to energize the motor for any operations that the medium would be able to perform.

Claims 2, 5, 14, 19 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shimada and Kumagai as applied to claim 1, 13 and 18, respectively above, and further in view of Li (US Patent No. 6, 385, 007).

Regarding Claim 2 and 19, the combination of Shimada and Kumagai teach all the limitations of Claim 1 and 18, respectively. However, the combination does not explicitly disclose the use of wherein said disk unit further comprises a first motor for driving said a disk, and said heating means includes means for heating by conducting a current through a fixed phase of said first motor. Li disclose the use of wherein it teaches that the disk drive device receives in the Peltier element (monitors the temperature in the disk drive) the heat developed by the spindle motor (Pat. No. 6, 385, 007; Col. 5, Lines 8-30). It would have been obvious to a person of ordinary skill in the art, at the time the invention was made, to modify the combination of Shimada and Kumagai's invention with the teaching of Li in order for the medium to have a motor and provide heat to the motor in order to make the driving motor operable when performing read and /or write operations.

Regarding Claims 5, 14 and 22, the combination of Shimada and Kumagai teach all the limitations of Claim 1, 13 and 18, respectively. The combination does not explicitly disclose a Peltier element is included in a heating means. Li disclose the use of a Peltier element used for controlling the temperature in a disk drive (Pat. No. 6, 385, 007; Col. 9, Line 62 to Col. 10, Line 6). It would have been obvious to a person of ordinary skill in the art, at the time the invention was made, to modify the combination of Shimada and Kumagai's invention with the teaching of Li in order for the medium to have a Peltier element in order to control the temperature of the medium in order to

prevent the hard disk to be inoperable when performing recording and/or reproducing operations.

Claim 6 and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shimada in view of Olarig et al. (US Patent No. 5, 280, 603) and Kumagai (JP 10320724A).

Regarding Claims 6 and 23, Shimada teaches a disk unit in which an arm having a head on a top is actuated, while a disk is rotated, so that a position of the head is moved with respect to the disk to perform write and read of data to and from the disk by the head, comprising:

> A temperature sensor for detecting a temperature and a humidity sensor (JP 5174565; Fig. 2, Elements 4 and Element 3, respectively.);
>
> A control circuit (JP 5174565; Fig. 2, Element 7).

Shimada further discloses that the temperature detector send temperature values read in the disk drive to the controller are determined by a timer (Pat. JP 5174565; Page 9, [0009]). Shimada further discloses that the humidity detector send humidity values read in the disk drive to the controller are determined by a timer (Pat. JP 5174565; Page 9, [0009]). However, Shimada does not explicitly teach that the sensor is located inside the outline. Kumagai disclose the use of wherein it teaches a sensor located inside the outline along with the access circuit (JP 10320724;A See Fig 1, Element 20 and [0015]-[0025]. Kumagai teaches a humidity sensor, but it is known in the art, that in order to measure humidity, the medium has to be able to measure the temperature, due to the fact that at a specific temperature (dew point temperature) the formation of dew may occur

inside the disk units environment.). It would have been obvious to a person of ordinary skill in the art, at the time the invention was made, to modify Shimada's invention in order for the sensor to be inside the disk unit because prevent damage to the disk (JP 10320724 [0006]). However, the combination of Shimada and Kumagai does not disclose a clock generating circuit for generating a plurality of sorts of operational clocks which are mutually different in frequency; and a control circuit for controlling an operation of said disk unit in such a manner that upon receipt of any one sort of operational clock from said clock generating circuit, a processing is performed at a processing speed according to a frequency of the received operational clock, wherein said control circuit operates at an operational clock different in accordance with a temperature. Olarig et al. disclose the use of a memory controller device that the frequency changes according to the temperature read by the temperature sensor which is found inside an outline of a housing (Pat. No. 6, 564, 288; Col. 4, Lines 33-47. Because the frequency changes according to the temperature read by the sensor, the operational clocks are different operational clocks. It is obvious to a person of ordinary skill in the art to know that that memory devices along with its electrical components must be ebcased inside an outline in order for them to effectively function.). It would have been obvious to a person of ordinary skill in the art, at the time the invention was made, to modify the combination of Shimada and Kumagai's invention with the teaching of Olarig et al. in order to make the controller able to depend on the temperature read by the sensor in order to prevent the excessive temperature to damage the disk.

Claim 15 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shimada and Kumagai as applied to claim 13 above, and further in view of Mori et al. (US Patent No. 5, 594, 603).

Regarding Claim 15, the combination of Shimada and Kumagai teach all the limitations of Claim 13. The combination does not explicitly teach that the controller informs a host whenever the temperature exceeds a third temperature. Mori et al. disclose the use of wherein it informs the host whenever a temperature is performing a countermeasure whenever the temperature exceeds a given temperature (Pat. No. 5, 594, 603; Col. 16, Lines 21-30). It would have been obvious to a person of ordinary skill in the art, at the time the invention was made, to modify the combination of Shimada and Kumagai's invention with the teaching of Mori et al. in order for the medium to be able to inform to the host whenever the information exceed a given threshold in order to do perform a countermeasure and control the temperature in the disk drive whenever it surpasses its maximum value.

Regarding Claim 17, the combination of Shimada and Kumagai teach all the limitations of Claim 13. The combination does not explicitly to teach that the controller informs a host whenever the temperature exceeds a third temperature and informs that the medium is not operable. Mori et al. disclose the use wherein it informs the host whenever a temperature is performing a countermeasure whenever the temperature exceeds a given temperature (Pat. No. 5, 594, 603; Col. 16, Lines 21-30). It is obvious that if the medium informs when the medium exceed a given threshold, then the medium can be able to inform that the medium is inoperable (Shimada's invention inactivates the medium if the temperature is too high. See JP 174565; [0018] and [0019]). It would have

been obvious to a person of ordinary skill in the art, at the time the invention was made, to modify the combination Shimada and Kumagai's invention with the teaching of Mori et al. in order for the medium to be able to inform to the host whenever the information exceed a given threshold in order to do perform a countermeasure and control the temperature in the disk drive whenever it surpasses its maximum value.

Claim 24 is rejected under 35 U.S.C. 103(a) as being unpatentable over Shimada in view of Fukuzono et al. (US Patent No. 6, 409, 380). The combination of Shimada and Kumagai teach all the limitations of Claim 23. The combination does not explicitly disclose wherein said disk unit further comprises a communication circuit for communication with a host, and when said humidity a sensor detects a humidity exceeding the predetermined humidity, said communication circuit informs the host that heating is performed. However, this feature is known in the art as disclosed by Fukuzono et al., wherein it teaches a magnetic recording medium wherein it measures the humidity and displays a message whether the humidity exceeded a predetermined humidity (Col. 5, Lines 1-54. Fukuzono et al. teach that by a measuring the temperature the medium calculates the dew or humidity at that precise time and that is displayed in the display.). It would have been obvious to a person of ordinary skill in the art, at the time the invention was made, to modify the combination of Shimada and Kumagai's invention with the teaching of Fukuzono et al. in order for the medium to be able to inform to the host whenever the information exceed a given threshold in order to do perform a countermeasure and control the humidity in the disk drive whenever it surpasses its maximum value.

Claims 11 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shimada and Kumagai (JP 10320724A) in view of Okada et al. (US Patent No. 6, 530, 034).

Regarding Claim 11, Shimada teaches a disk unit in which an arm having a head on a top is actuated, while a disk is rotated, so that a position of the head is moved with respect to the disk to perform write and read of data to and from the disk by the head (It is inherent that a disk unit has an arm (also called transducer) to perform write/read operations. See Fig. 2, block 5. Shimada teaches a disk unit), comprising:

A temperature sensor for detecting a temperature (JP 5174565; Fig. 2, Element 4);

However, Shimada does not explicitly disclose that the sensor is located inside the outline. Kumagai disclose the use of wherein it teaches a sensor located inside the disk unit along with the read/write head (JP 10320724;A See Fig 1, Element 20 and [0015]-[0025]. Kumagai teaches a humidity sensor, but it is known in the art, that in order to measure humidity, the medium has to be able to measure the temperature, due to the fact that at a specific temperature (dew point temperature) the formation of dew may occur inside the disk units environment.). It would have been obvious to a person of ordinary skill in the art, at the time the invention was made, to modify Shimada's invention in order for the sensor to be inside the disk unit because prevent damage to the disk (JP 10320724 [0006]). The combination of Shimada and Kumagai does not explicitly disclose an access circuit for accessing said disk, wherein said access circuit performs, when writing of data into said disk is performed in a case where said temperature sensor detects a temperature which is out of a predetermined temperature range, a writing

confirmation operation for comparing written data with read data through reading data written into said disk. Okada et al. disclose the use of a circuit that includes a thermal asperity detector that is able to detect an increase in temperature (known in the art as an asperity) during a writing operation and compares the data to check if any data recovery needs to be done in the medium (Pat. No. 6, 530, 034; See Fig. 1, Fig. 4 and Col. 2, Lines 18-31). It would have been obvious to a person of ordinary skill in the art, at the time the invention was made, to modify the combination of Shimada and Kumagai's invention with the teaching of Okada et al. in order for the medium to be able to detect any rise in temperature in order to recover the data being lost during a data recording operation.

Regarding Claim 12, the combination of Shimada, Kumagai and Okada et al. teach all the limitations of Claim 11. The combination further teach wherein said access circuit again writes the written data into a same area on said disk and again reads the written data in a case where it is decided by the writing confirmation operation that the written data is not coincident with the read data, and said access circuit writes the written data into a different area on said disk in a case where it is again decided by the writing confirmation operation that the written data is not coincident with the read data (Pat. No. 6, 530, 034; Fig. 4).

Claim 26 and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yotsuya et al. (US Patent No. 6, 335, 843) and Kumagai (JP 10320724A) in view of Okada et al. (US Patent No. 6, 530, 034).

Regarding Claim 26, Yotsuya et al. teach a disk unit in which an arm having a head on top is actuated, while a disk is rotated, so that a position of the head is moved

with respect to the disk to perform write and read of data to and from the disk by the head (See Fig. 6), said disk unit comprising:

> A humidity sensor for detecting a humidity (See Fig. 6, Element 91);
>
> And an access circuit for accessing said disk (See Fig. 6. Yotsuya et al. teach a circuit that accesses the disk to perform reading/writing operations),
>
> Wherein said access circuit performs, when writing of data into said disk is performed in a case where said humidity sensor detects a humidity exceeding a predetermined humidity (See Fig. 14, wherein Yotsuya et al. teach that when the medium exceeds a predetermined humidity while performing a writing operation in the medium.).

However, Yostuya et al. does not explicitly disclose to teach that the sensor is located inside the disk unit. Kumagai disclose the use of wherein it teaches a sensor located inside the disk unit along with the read/write head (JP 10320724;A See Fig 1, Element 20 and [0015]-[0025]. Kumagai teaches a humidity sensor, but it is known in the art, that in order to measure humidity, the medium has to be able to measure the temperature, due to the fact that at a specific temperature (dew point temperature) the formation of dew may occur inside the disk units environment.). It would have been obvious to a person of ordinary skill in the art, at the time the invention was made, to modify Yostuya et al.'s invention in order for the sensor to be inside the disk unit because prevent damage to the disk (JP 10320724 [0006]). However, the combination of Yotsuya et al. and Kumagai

does not explicitly disclose that it performs a data verification after the medium detect that the humidity is exceeded. Okada et al. disclose the use of a circuit that includes a thermal asperity detector that is able to detect an increase in temperature (known in the art as an asperity) during a writing operation and compares the data to check if any data recovery needs to be done in the medium (Pat. No. 6, 530, 034; See Fig. 1, Fig. 4 and Col. 2, Lines 18-31). It would have been obvious to a person of ordinary skill in the art to know that humidity and temperature are environmental factors that must be avoided in order to prevent a failure during reading and writing of the disk drive (Pat. No. 6, 046, 871; Col. 1, Lines 47-63). It would have been obvious to a person of ordinary skill in the art, at the time the invention was made, to modify the combination of Yotsuda et al. and Kumagai's invention with the teaching of Okada et al. in order to monitor and restore the data being lost during a data recording operation.

Regarding Claim 27, the combination of Yotsuya et al., Kumagai and Okada et al. teach all the limitations of Claim 26. The combination further teach wherein said access circuit again writes the written data into a same area on said disk and again reads the written data in a case where it is decided by the writing confirmation operation that the written data is not coincident with the read data, and said access circuit writes the written data into a different area on said disk in a case where it is again decided by the writing confirmation operation that the written data is not coincident with the read data (Pat. No. 6, 530, 034; Fig. 4).

Allowable Subject Matter

Claims 10, 25, 28, 29 and 31 are allowed.

The reasons for allowance are found in Paper #8, dated 2/20/2004.

The following is an examiner's statement of reasons for allowance: the primary reason for allowance is the inclusion of the limitation wherein a dehumidifying agent is provided in a space between the first outline and second outline and wherein the top and bottom are in fluid communication via the space.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Response to Arguments

Applicant's arguments filed 06/07/2004 have been fully considered but they are not persuasive. Applicant amended independent Claims 1, 6, 11, 18, 23 and 26 to include the feature wherein the claimed elements are found inside the outline. Kumagai teaches that the Elements used to control humidity/temperature are found inside the outline as seen in JP 10320724, [0015]-[0025].

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the

shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Glenda P. Rodriguez whose telephone number is (703) 305-8411. The examiner can normally be reached on Monday thru Thursday: 7:00-5:00; alternate Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sinh Tran can be reached on (703) 305-4040. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

SINH TRAN
PRIMARY EXAMINER

gpr
August 17, 2004.